of its compounds, from Prof. Winkler, of Freiberg, brought by Dr. Hugo Müller. These were :—

(1) Metallic germanium ; (2) germanium monosulphide, GeS ; (3) germanium disulphide, GeS_2 ; (4) crystallised germanium, obtained by the action of hydrogen on germanium sulphide.

Germanium is claimed to be the ekasilicium predicted by Mendeléeff in his periodic law.

	Mendeléeff's ekasilicium	Germanium
Sp. Gr.	5·5	5·469
Atom. weight ...	72	72·75
Atom. val.	13	13·3

Mr. G. J. Symons exhibited a small pocket thermometer as constructed by Immisch. This thermometer is actuated by a minute Bourdon tube. It is shaped like a watch, is water-tight, and nearly unbreakable.

A terrestrial globe showing magnetic meridians for the epoch 1880, and general distribution of the secular change of the declination, made for the Hydrographic Department of the Admiralty, was exhibited by Staff-Commander Creak, R.N. The approximate positions of the foci of greatest secular change of the declination and vertical force—except for the Arctic and Antarctic zones—are also shown. A consideration of these foci shows the general angular motion of the north or marked end of a freely suspended needle as regards secular change.

The fact that our space is nearly exhausted, although we have only referred to about one-half of the exhibits, well indicates the care taken to make the *soirée* a success. In conclusion we refer as briefly as possible to some of the remainder :—

Jordan's photographic sunshine-recorder, with specimens of observations, exhibited by Mr. J. B. Jordan, of the Mineral Statistics Branch, Home Office.

Original geological map of the Orange Free State, and section of part of Cape Colony, by the late G. W. Stow (unpublished), exhibited by Prof. Rupert Jones, F.R.S.

Specimens of daily synchronous charts of the North Atlantic for the period of thirteen months, from August 1882 to August 1883 inclusive, now in the course of preparation by the Meteorological Office, exhibited by the Meteorological Council. The specimens show the meteorology of the North Atlantic on three summer and on three winter days.

New and interesting plants, exhibited by the Director of the Royal Gardens, Kew.

Nolls' apparatus for demonstrating secondary growth in thickness of stems ; Hopfe's Collectiones Phytomicrotomicæ, exhibited by Prof. Bayley Balfour, F.R.S.

Collection of stone-headed arms, implements, &c., from New Guinea, exhibited by Mr. H. B. Brady, F.R.S.

Diagrammatic sections showing the geological structure and physical features of parts of Arabia Petræa, and Palestine, exhibited by Prof. Edward Hull, F.R.S., Director of the Geological Survey of Ireland : (1) from the sea-coast at Askalan by Jerusalem to the Jordan Valley at Jericho ; (2) from the table-land of Southern Judæa—across the Dead Sea to the Plains of Moab ; (3) from the Gulf of Suez, near Tor, by the Mountains of Sinai, to the Plateau of Badiet et Tîh.

Apparatus for measuring the luminosity of leaves, invented and exhibited by Dr. Gorham, to show that the white light reflected from leaves can be measured in *cents.* of a circle by the novel use of a *gray ring*, and that by putting this luminosity in the form of an equation its equivalents in colour are discovered, which, when placed in sectors on a circular disk and rapidly rotated on a wheel, are seen to match the colour of the leaf from which the luminosity has been originally reflected.

Specimens of miners' electric lamp, invented and exhibited by Mr. Swan.

Dr. Sohlberg's celestial globe of glass ; Dr. Schmidt's tellurium ; cosmographic clocks for showing universal time ; contoured map of the English Lake District, constructed by Mr. Jordan ; enlarged original photographs taken by Mr. Joseph Thomson in his recent journey up the Niger ; replica of Frankfort globe, of date 1520 ; two large diagrams—(1) Roraima, British Guiana, by Mr. Im Thurn, (2) a similar formation in the north of Brazil, by Mr. Wells ; collection of minerals from summit of Mount Roraima, exhibited by the Royal Geographical Society.

NOTES

IT is with much regret that we announce the death of Surgeon-Major T. Lewis, Medical Staff, Assistant Professor of Pathology in the Army Medical School at Netley. Within the last few weeks the Council of the Royal Society decided to recommend Dr. Lewis for their Fellowship, in recognition of the importance of his various contributions to science. Dr. Lewis had only just reached the forty-fifth year of his age at the time of his death.

THE death is announced of Dr. E. Linnemann, Professor of Chemistry at Prague, which occurred on April 27. Among his papers a letter was found addressed to the Vienna Academy of Sciences containing a communication on a new chemical metallic element called austrium (Aus). This new element was prepared by the late Prof. Linnemann from orthite of arendal. The spectrum of austrium shows two violet lines ; the wave-lengths were found to be, for Aus α, $\lambda = 416·5$, and for Aus β, $\lambda = 403·0$. According to a note made by Prof. F. Lippich, of Prague, who communicated Prof. Linnemann's letter last week to the Vienna Academy, three not yet identified lines—$\lambda = 415·56$, $\lambda = 416·08$, and $\lambda = 416·47$—are shown in Ångström's atlas of the normal spectrum of the sun in the neighbourhood of the Aus α line ; the last of them might be supposed coincident with the Aus α line ($\lambda = 416·5$).

M. CHEVREUL, who on August 31 will be a centenarian, was on Monday afternoon presented by his colleagues of the Academy of Sciences with a bronze bust of himself, executed by Paul Dubois. Admiral Jurien de la Gravière, one of the senior members—his age being 73—made the presentation, and warmly complimented M. Chevreul on his long and distinguished career, which made France proud of him and of herself. M. Chevreul, who was much affected, made a brief acknowledgment of the honour done him.

THE Swedish Academy of Sciences celebrated its centenary on April 5 last, having been founded by Gustavus III. on the eve of the French revolution.

THE paper to be read at the ordinary meeting of the Society of Arts on May 26 will be "The Purification of Water by Agitation with Iron, and Sand Filtration," by William Anderson, M.Inst.C.E. On Tuesday, May 25, a paper on "Cyprus since the British Occupation," will be read by G. Gordon Hake, before the Foreign and Colonial Section. In the Indian Section, Capt. Richard Carnac Temple's paper on "Every-day Life of Indian Women, as Revealed in their own Sayings," will be read on May 21.

WILLIAM LANDSBOROUGH, whose name is known in connection with Australian exploration, died at Caloundra, near Brisbane, on March 15. His father was a Scottish naturalist of note. Having gone to Australia, Landsborough in 1860 discovered the head of the Thompson River, and in the following year traced the Gregory and Herbert Rivers to their sources. He then undertook to lead the expedition in search of Burke and Wills, and traversed the continent from the Gulf of Carpentaria to Melbourne. Subsequently he was appointed to a post in the public service of Queensland, and was voted 2000*l.* for his explorations in that colony.

A TELEGRAM from Catania of May 18 states that Mount Etna had been in eruption since 11 o'clock that morning. A very active discharge of vapour and cinders was proceeding from the western side of the central crater.

WE are glad to learn of the formation of a Natural History Society at Yokohama. The marvel is that so long a time has been allowed to elapse before such a society was founded there or in Tokio, for probably there are no communities in the world in which the proportion of men of science is so high as here. But no doubt the local Asiatic Societies and the Seismological

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Society absorbed much of the scientific work of the residents. The first meeting of the new Society was held at the beginning of last month, when Prof. Milne delivered a lecture on the geology of Japan, which is reported in full in the *Japan Weekly Mail* of April 3, and which is too comprehensive and detailed to lend itself to adequate treatment in a short note. We observe, however, that in speaking of the difference between the fauna of Yezo and of the other islands of the Japanese archipelago he suggests that the line between the two should be called Blakiston's line (from Capt. Blakiston, who first pointed it out), on the model of Wallace's line between the Javan and Australian fauna. Prof. Milne proposed this nomenclature a few years ago, and it is now adopted by some German publications. The difference, indeed, is not so great as that marked by Wallace's line, still it is of considerable importance. Thus in Japan we have the monkey, the sheep-faced antelope, the bear, and the pheasant; but on the other side of the straits the bear is a totally different one, the monkey, the pheasant, or the antelope is not found, and a totally different fauna exists. The suggestion of marking the dividing line with Capt. Blakiston's name is an appropriate one.

Dr. Trimen's Report for 1885 on the various botanic gardens in Ceylon, of which he is Director, is a very satisfactory document, as such reports from our colonial gardens generally are. It contains a considerable number of meteorological observations, and describes the arrangements made to carry out the scheme of a garden at Badulla, in the new province of Ceylon, for which funds have been voted. The usual report on the distribution of plants and seeds is given, and then comes a long list of additions to the collections of plants at the various gardens, which is followed by some interesting notes on economic plants and products. Under this head he makes various recommendations and suggestions which will no doubt be of the utmost value to perplexed planters who are assailed on all sides by dangers which are only too apparent, but which it requires scientific training and investigation to combat. Thus he advises that tea and cinchona should not be grown together, as it is only in such cases that the planter's scourge, *helopeltis*, does any appreciable damage to tea. On the other hand, he thinks that the diminution in the cultivation of cacao, through dread of *helopeltis*, is unreasonable, for the insect only attacks cacao grown in the open, and not that grown under the shade of trees, for example. The Ceylon Herbarium has been arranged during the year in accordance with Dr. Trimen's "Systematic Catalogue of Ceylon Plants," and in the work of rearranging he was able to put together a series of notes describing about 280 additions to the flora of Ceylon, and 40 new species or varieties. That much yet remains to be done is obvious from the fact that during 1885 fifteen additional have been discovered in the island, many of which are striking plants. The Government has approved the formation of an exhibition containing specimens of the plants, grains, &c., of the island. Like many other colonial officials, Dr. Trimen has been busy during the past year preparing for the Colonial and Indian Exhibition, where the series of woods in the Ceylon section was prepared by him.

According to a letter received from Baron Schwerin, the well-known Swedish geographer, who is at present on a scientific mission to the Congo for his Government, he observed the great November meteor-stream on the 27th of that month, at 8 p.m., off Cape Palmas, on the Guinea coast (lat. 4° 29′ 9″ N., and long. 7° 44′ 16″ W.). He describes it as the most magnificent spectacle he ever beheld, "the whole sky being furrowed from nearly north to south by falling stars, looking like gigantic fireworks, in which thousands of 'star-rockets' were burnt off."

On the evening of April 27 a bolide was observed in several parts of the north-western provinces of Russia. A large ball of bluish colour was moving from south to north; in about two seconds it changed its colour into a bright electric-white, and suddenly broke in many pieces and disappeared.

In consequence of the ice breaking on the Volga, a considerable number of naphtha-barges were wrecked this spring, and about 2,000,000 poods, or 33,000 tons, of naphtha are now floating along the river. According to the observation of past years the presence of such a large amount of hydrocarbon in the water will produce a very disastrous effect upon Russian fisheries, not only along the Volga, but even on the northern coast of the Caspian Sea.

The tendency amongst modern Oriental scholars is to trace the origin of Chinese arts, sciences, and civilisation to Babylonia. The theory, however, is not accepted by many of the most eminent Chinese scholars. In the last number of the *China Review*, Dr. Edkins of Pekin gives his reasons for assigning a Babylonian origin to Chinese astronomy and astrology. Amongst these are the following:—Both peoples divided our day and night into twelve hours; the sun-dial is a Babylonian invention, and reached China at a very early date; the intercalary month belonged to the Accadians, and is found in the first sections of the Chinese Book of History. Geminus states that it was the dwellers on the Euphrates who discovered that, after 223 lunations or eighteen years, eclipses of the moon recur in the same order. The early use of the intercalary month by the Chinese implies that either they, or those from whom they derived it, knew this fact about lunations. Early Chinese astronomy, Dr. Edkins thinks, is too good to come from the Chinese of those days, and, on various learned grounds which he states, he concludes that the double hour, the astrolabe, the dial, the intercalary month, and the knowledge of the length of the year were all communicated from Babylon to China at different periods by land or by sea between about B.C. 2200 and B.C. 820.

The invitation to Norwegian sea-captains to make barometrical observations during the eclipse next August was not issued by the Norwegian Meteorological Society but by our Norwegian contemporary *Naturen*, to which the returns are also to be sent.

Messrs. Whittaker and Co., and Messrs. Bell announce in their new "Series of Hand-Books for Practical Engineers" Dr. Jul. Maier's book on "Arc and Glow Lamps." It will be a complete hand-book on the subject, especially relating to its practical applications, giving the latest results and improvements. The next volume in the same series will be Mr. Gisbert Kapp's "Electric Transmission of Energy," which is promised early next week. Mr. William Anderson has revised and added some new matter to his "Lectures on the Conversion of Heat into Work," which excited much attention when delivered last year at the Society of Arts. They will be published in book form by Messrs. Whittaker and Co.

The additions to the Zoological Society's Gardens during the past week include two Shaw's Gerbilles (*Gerbillus shawi*) from North Africa, presented by Mr. W. R. Ogilvie Grant; two Black-backed Jackals (*Canis mesomelas*) from South Africa, presented by Mr. F. Mosenthal; a Ring-tailed Coati (*Nasua rufa*) from South America, presented by Mr. T. P. Lymn; a Brown Condor (*Sarcorhamphus æquatorialis*) from Chili, presented by Mr. R. J. James; two Red Kangaroos (*Macropus rufus*) from Australia, two Grey Parrots (*Psittacus erithacus*) from West Africa, an Indian Rat Snake (*Ptyas mucosa*) from India, a Green Lizard (*Lacerta viridis*), European, deposited; an Indian Coucal (*Centropus rufipennis*) from India, an African Tantalus (*Pseudotantalus ibis*) from West Africa, four Black-tailed Godwits (*Limosa ægocephala*), European, a Spotted Eagle Owl (*Bubo maculosus*) from South Africa, purchased; an Eland (*Oreas canna*), four Chilian Pintails (*Dafila spinicauda*), bred in the Gardens.

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